

# INDEX

- Abandoned farm land  
  succession on, 349-375
- Activity  
  of songbirds, 1-28  
  of squirrel, 239-241
- Beckwith, Stephen L., article, 349-375
- Biology of red squirrel in central New York, 227-267
- Bivouac or temporary nest as adaptive factor in certain terrestrial army ants, 269-296
- Bourdeau, Philippe, article, 297-320
- Boyce, Stephen G., article, 29-67
- Brown, Frances C., article, 269-296
- Brown, Robert Z., article, 269-296
- Cleveland Harbor area, phytoplankton, 321-347
- Climate  
  Arizona, 187-188  
  Wasatch Plateau, 94-97
- Communities  
  salt marsh, 209-225  
  subalpine, 89-184
- Daphnia, 69-88
- Davis, Charles C., article, 321-347
- Desert biome, bird population, Arizona, 185-207
- Drought, and oak seedlings, 304-308
- Eciton burchelli* and *hamatum*, 269-294
- Ecological relations of breeding bird population of the desert biome of Arizona, 185-207
- Ellison, Lincoln, article, 89-184
- Epizootics of muskrat populations, 384
- Errington, Paul L., article, 377-393
- Eyster, Marshall B., article, 1-28
- Flooding, effects on oak seedlings 309-310
- Food  
  competition in *Daphnia*, 76  
  desert birds, 200-203  
  mink, 380-389  
  red squirrel, 237-239
- Growth form and salt spray, 60-61
- Hensley, M. Max, article, 185-207
- Hinde, Howard P., article, 209-225
- Home range, 256-258
- Hypertrophy and salt spray, 55-58
- Layne, James N., article, 227-267
- Mink responsiveness to muskrat epizootics, 377-393
- Natural selection, 391-393
- Oak-hickory forest, North Carolina, 297-320  
  causes of segregates, 314-317
- Oak seedling ecology, 297-320  
  responses to drought, 304-308  
  responses to flooding, 309-310  
  relations to light, 310-313  
  photosynthetic rates, 311-313
- Pelage changes, 231-232
- Periodicity in feeding, 81
- Phytoplankton, Cleveland Harbor, 321-347  
  seasonal distribution, 324-342
- Population  
  dynamics in *Daphnia*, 69-88  
  of desert birds, 196-198  
  of red squirrel, 236-237
- Quantitative measurement of influence of photoperiod, temperature and season on activity of captive songbirds, 1-28
- Reproduction  
  in *Daphnia obtusa*, 77-79  
  of desert birds, 192  
  of red squirrel, 246-254
- Rhythm in birds, 20
- Salt marsh, California, 209-225
- Salt marsh zonation and tide levels, 209-225
- Salt spray  
  and hypertrophy, 55-58  
  deposition, 41-43  
  source, 39
- Salt spray community, the, 29-67  
  sandblasting, 37  
  salinity of substrate, 38  
  salt spray relations, 39-61
- Schneirla, T. C., article, 269-296
- Slobodkin, L. Basil, article, 69-88
- Soils, Wasatch Plateau, 97-98
- Species segregation in Piedmont forests, 297-320
- Subalpine vegetation, Wasatch Plateau, 89-184  
  effects of grazing, 166-169  
  plant communities, 106-165
- Succession  
  on abandoned farm lands, 349-375  
  and wildlife management, 349-375  
  subalpine, 117
- Temperature effects, 23
- Territoriality of squirrels, 259-261
- Tide levels and salt marsh, 209-225
- Wasatch Plateau, subalpine vegetation, 89-184  
  climate, 94-97  
  flora, 182  
  geology, 94  
  soils, 97-98
- Wildlife management on abandoned land, 349-375

1

# ECOLOGICAL MONOGRAPHS

OFFICIAL PUBLICATION OF THE  
ECOLOGICAL SOCIETY OF AMERICA

---

Volume 24, 1954

---

Published Quarterly by  
The Duke University Press  
Durham, N. C., U. S. A.

# ECOLOGICAL MONOGRAPHS

A QUARTERLY JOURNAL  
FOR ALL PHASES OF BIOLOGY

---

**EDITORS:** BOTANY, H. J. OOSTING, Duke University, Durham, N. C.  
ZOOLOGY, W. J. HAMILTON, JR., Cornell University, Ithaca, N. Y.

---

**BUSINESS MANAGER:** NORMAN KNOX, Duke University Press

---

## MEMBERS OF THE EDITORIAL BOARD

### 1952-1954

LaMont C. Cole, Cornell University, Ithaca, N. Y.  
John F. Reed, University of Wyoming, Laramie, Wyo.

### 1953-1955

F. C. Evans, Institute of Human Biology, University of Michigan, Ann Arbor, Mich.  
John N. Wolfe, Department of Botany, Ohio State University, Columbus 10, Ohio

### 1954-1956

Murray F. Buell, Department of Botany, Rutgers University, New Brunswick, N. J.  
David C. Chandler, Department of Entomology and Limnology, Cornell University, Ithaca, N. Y.

---

**EX OFFICIO:** W. D. Billings, Duke University, Durham, N. C.

Edward S. Deevey, Yale University, New Haven, Conn.

The editorial board of this journal will consider ecological papers which are in general long enough to make twenty printed pages or more. Shorter ecological papers should be submitted to the editor of *Ecology*, which is also published by the Ecological Society of America. Both journals are open to ecological papers from all fields of biological science.

Manuscripts should be typewritten and may be sent to any member of the Editorial Board. Proof should be corrected immediately and returned to the Managing Editor at the address given above. Reprints, with or without covers, are obtainable at cost and should be ordered when proof is returned. Correspondence concerning editorial matters should be sent to the Managing Editor; that concerning subscriptions, change of address, and back numbers to the Circulation Manager.

Subscription price, \$6.00 per year; single numbers of current volume, \$1.50. Back numbers, \$7.00 per volume, \$1.75 per number. Missing numbers will be supplied free when lost in the mails if written notice is received by the Circulation Manager within one month of date of issue. All remittances should be made payable to the Duke University Press, Box 6697, College Station, Durham, N. C.

Agents in Great Britain: The Cambridge University Press, Bentley House, 200 Euston Road, London, N.W. 1. Prices can be had on application.

---

Entered as second-class matter December 18, 1930, at the Post Office at Durham, North Carolina, under the Act of Congress of March 3, 1879.

COPYRIGHT, 1954, BY DUKE UNIVERSITY PRESS

TABLE OF CONTENTS

Volume 24, 1954

NUMBER 1, JANUARY

PAGE

Quantitative Measurement of the Influence of Photoperiod, Temperature, and Season on the Activity of Captive Songbirds.....	Marshall B. Eyster	1
The Salt Spray Community.....	Stephen G. Boyce	29
Population Dynamics in <i>Daphnia obtusa</i> Kurz.....	L. Basil Slobodkin	69

NUMBER 2, APRIL

Subalpine Vegetation of the Wasatch Plateau, Utah.....	Lincoln Ellison	89
Ecological Relations of the Breeding Bird Population of the Desert Biome of Arizona....	Max Hensley	185
Vertical Distribution of Salt Marsh Phanerogams in Relation to Tide Levels.....	Howard P. Hinde	209

NUMBER 3, JULY

The Biology of the Red Squirrel, <i>Tamiasciurus hudsonicus loquax</i> (Bangs), in Central New York.....	James N. Layne	227
The Bivouac or Temporary Nest as an Adaptive Factor in Certain Terrestrial Species of Army Ants .....	T. C. Schneirla, Robert Z. Brown, and Frances C. Brown	269
Oak Seedling Ecology Determining Segregation of Species in Piedmont Oak-Hickory Forests .....	Philippe Bourdeau	297

NUMBER 4, OCTOBER

A Preliminary Study of the Plankton of the Cleveland Harbor Area, Ohio: II. The Distribution and Quantity of the Phytoplankton .....	Charles C. Davis	321
Ecological Succession on Abandoned Farm Lands and Its Relation to Wildlife Management .....	Stephen L. Beckwith	349
The Special Responsiveness of Minks to Epizootics in Muskrat Populations .....	Paul L. Errington	377